



# LAPORTE COUNTY / HARBOR BEAM JULY 2015



**146.970 / 441.950 (W9LY)**  
DIGITAL/FM    DIGITAL/FM

**146.610 (K9JSI)**

**Echolink Node: 193001**

**WIRES-X #21421**



## WHO WE ARE

### **Communications:**

**Matt Lasayko, KC9KUD**  
**Dave Kaufman NU9I**

### **Repeater Committee:**

**Matt Lasayko, Ron Broviak**  
**Dan Sheetz, Ken Osborne,**  
**Todd Saboff, Dan Foster,**  
**Dave Kaufman, Mike**  
**Broviak, Curt Yeater**

### **Internet:**

**Stan Vandiver**  
**Mike Broviak, Todd Saboff**

### **Field Day:**

**John Phillips**

### **NEWS LETTER:**

**Ken Osborne**

### **Activities:**

**John Phillips**

### **VE TESTING:**

**Scott Tharp**

### **PUBLIC RELATIONS**

**Barb Cave**

### **MEMBERSHIP:**

**Troy Harrison**

## AMATEUR RADIO A BRIDGE TO FRIENDSHIP

### **President:**

**Brian Salzer KB9HMR**

### **Vice President:**

**John Phillips KA9PGC**

### **Secretary:**

**Barb Cave KA6OJX**

### **Treasure:**

**Ken Osborne N9ZIP**

### **Board Members:**

**Ron Broviak, WA9RON**

**Dan Foster, KC9GFO**

**Scott Tharp N9NKK**

### **Trustee W9LY:**

**Dan Sheetz W9DWS**

### **Trustee K9JSI:**

**Todd Saboff, AC9HQ**

### **Tower Site:**

**Ken Osborne**

**John Phillips**

**Dan Foster**

**Bob Smith**

### **Fund Raising:**

**Brian Salzer**

**Ken Osborne**

**Troy Harrison**

**Ron Broviak**

**MEETING NOTICE:**

Next LaPorte County  
Amateur Radio club  
meeting is Monday  
July 20th  
7pm  
@ THE TOWER SITE

**LAPORTE COUNTY  
AMATEUR RADIO CLUB**

P.O. Box 148,  
Michigan City, Indiana 46361  
WEBPAGE: <http://lpcarc.org>  
EMAIL: [info@lpcarc.org](mailto:info@lpcarc.org)  
FACEBOOK: lpcarc  
A 501 (c) (3) Public Charity # 35-1390856



**ARES EMERGENCY  
COORDINATOR:**

Dan Foster, KC9GFO

**RACES OFFICERS:**

Ken Osborne, N9ZIP

Dan Foster, KC9GFO

Ken Maynard, W8KRM

**SKYWARN:**

Ken Osborne, N9ZIP

**In This Issue**

**NOW YOU  
KNOW**

**FIELD DAY RECAP**

**NEW REPEATER**

**WIRE-X**

**K9JSI REPEATER**

**WELCOME**



**TO  
THE  
LaPorte  
County  
Amateur Radio  
Club**

[lpcarc.org](http://lpcarc.org)

# LaPorte County / Harbor Beam

## PAGE 3

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### WEEKLY BREAKFAST

Club members meet for Breakfast at

#### TOPSKILLET

1st Thursday of the month @ 8am

#### B&J's

All other Thursday's @8am

Both locations are in LaPorte

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The LaPorte County / Harbor Beam is published on the Saturday, before the monthly club meeting, 12 times each year, as a service of the LaPorte County Amateur Club; for it's members and those interested. Inquires and submissions should be sent to the LaPorte County / Harbor Beam Editor at our e-mail address [info@lpcarc.org](mailto:info@lpcarc.org).

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### CLUB DUES

Club dues for 2015 is only \$15.00. Your dues goes towards our repeaters and pays for our insurnace, which is our largest expense, for the club. Our fundraisers keep our dues low and support of activities. Your dues can be paid at any club meeting.

Your can also be mailed.

Our mailing address is...

LaPorte County Amateur Radio Club  
P.O. Box 148

Michigan City, Indiana 46361

**Support the club!**

**Support our repeaters!**

**Membership is open to all.**



### WIRE-X

As you may heard, after allot of head aches, countless climbs, up the tower, we finally got WIRE-X working on the repeater. Our re-peater guys fixed the issues. WIRE-X allows our repeater to connect to other repeaters or rooms (groups) via the internet. In our testing phasing, and debugging it has been open to a large group, so that we can hear other traffic. We can't fix what we don't see and hear. Any time WIRE-X is connected please feel free to use the repeater as you would like. If you hear somesome far, far away. Talk to them if you want too. Hams are known to talk about anything, even if you don't know them. Just because it may be connected to the Internet, use the repeater as you like to make local calls, to talk to friends. If no trafiic is heard, go ahead and use it, for local traffic. Think of it as a repeater where the club has hundreds of members.

During Weather Nets we will shut it down.

Once we get WIRE-X stable and running our current plan is connect to just one other repeater at a time, and ever now and then to large group. Rich Dugger, who was a long standing member of the club, now lives in Texas. He has alot of friends who still lives here, so we may connect with his repeater from time to time. As WIRE-X grows in numbers, we may find that we would want to form and Indiana link, where mobles can switch from repeater to repeater and keep a QSO going.

cont. pp 5

## FIELD DAY RECAP

Once again we held our Field Day and every one had great time. With the car show held on Saturday, we had tons of food. The weather was perfect. We had a good number of campers this year. With rain on Friday, radios were kept in tents. With HF conditions not at there best, we still managed to make several contacts. One station had an antenna issue. For a few hours we are off the air, due to a strong QRM signal hitting all the radios an S7. After a allot of searching it was traced to a neon sign. By the time we got back on the air, it was dinner time. We're not going to pass up all that food. :)

Then it was time for big bond fire. As the evening temps fell in the low 60's the bond fire, friends, and beer was a real treat. Oh did I mention beer..... It was after 1am before everyone went back to bed.

Sunday the radios were humming. Breakfast was cooked. It was awesome three day week-end. It a was break that so many of us needed, and a chance just to get away to relax and be with friends.

A special thank you to Todd for the Internet service. Dave for cooking on the grill.

VE Testing was held on Saturday. Congratulations to all of those who passed and those who upgraded. Thanks goes to our VE Team.

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## LIGHTHOUSE WEEKEND

August 14th & 15th

Come out and join us

## WHAT TO KEEP UPDATE?

Our Newsletter only is sent out once a month. But our club is also on Facebook. There we post pictures, keep members informed whats happening, between our newsletters. For example, we when we schedule repeater outages, or we have issues. We post them to Facebook. It also lets others to give us feedback.

So if you want to keep up to date, check us out on Facebook.

<https://www.facebook.com/LPCARC>



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## K9JSI REPEATER

**You may have noticed that the K9JSI Repeater is off the air. This was due to an FCC Rules & Regulation mandate. The license expired, for the K9JSI in February, and was never renewed. FCC Rules state that it could not be in operation with out a valid license. Control Operators shut the repeater down. President Salzer directed our Control Operators to rectify this issue. FCC rules state that the Trustee is responsible for the legal opertion of the repeater. This was not was complied with, and we had no choice but to shut the system down. We also found that the K9JSI FRN# was still tied to a former Trustee who had moved away years ago. This has been rectified. The Trustee is an appointed position, in the club. President Salzer, with the approval of the Board Members, appointed Todd Saboff, AC9HQ as Trustee.**

## **WIRE-X.....**

**If you are wondering, Echolink is still up and running. We are now a mix of old and new.**

**Now what we heard, Yaesu is aware of the issues with WIRE-X. For those like us who connect directly to the repeater, they don't currently advertise that it can be done. WIRE-X runs only in Windows and there are issues that Yaesu will address down the road. But right now they are focusing on handhelds, mobiles and repeater firmware upgrades. WIRE-X and Windows will get better some time down the road.**

**Currently, since WIRE-X has come out, there is over 400 users. That number is except to climb. WIRE-X is new and our set up is a BETA TEST. Since we added WIRE-X over 400 more stations have come on line. It is growing.**

**How it works.....**

**WIRE-X works allot like Echolink. Each user has a ID Number. It also work like the old AOL Chat rooms, for those who are old enough to remember them. Each ID or user has it's own room number. So we can sit ideal, and someone can connect to our room, or repeater. Well you might think that's it, but there is more.**

**Each room can post news (text) files. They can post photos, and even audio files, for others to view and access. We have a picture of our tower, posted in our room. As more and more Fusion radios are sold, those radios well be able to post photos, news and view them as well.**

## **UHF REPEATER**

**If you haven't heard, the UHF repeater is up and running in full digital mode. It is currently set to AUTO/AUTO which means it can be used by digital and analog users a like.**

**In a recent test, we were able to hit the UHF machine from Ohare Field. Ok it was good spot, but still. We are running it at 50 watts. Both the VHF and UHF are running 50 watts. The messages boards report units burning up at 50 watts, but we have added cooling fans directly under each repeater. Those were donated N9ROM. With good air circulation, we should be good.**

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## **WHAT'S NEXT**

**Our next phase in working with the controllers. Connecting our controllers to the repeaters is unknow area. There is no reports or data on our controllers working with our repeaters. So it will also be a one step at a time. If you have a list of users codes for the controllers. Toss them in the trash. We have to rewrite the codes and some macros. The old codes are to close to Wires-X commands.**

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**THE**

**LaPORTE COUNTY**

**AMATEUR RADIO CLUB**

**IS GROWING.**

**JOIN US !**

**SUPPORT US !**

At our next meeting.....  
It will be held, at the tower site.  
Again we will cook out, starting at 5pm.  
On the menu will be..

BBQ Pulled Pork Sandwiches  
Potatoe Salad  
Pop

MEAL DEAL \$5.00  
Sandwich \$4.00

When it's gone  
it's gone

All proceeds goes to the Tin Can Fund.



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## KNOW YOU KNOW

This month we pick up where we left off.

A length of 260 feet will tune from 160-10 meters. Lengths of 260 and 135 feet have been used here successfully. Some hams use random lengths of wire without problems. Then some hams have had problems with other random lengths. The ones having the problems solved the tuner problems by changing the length of the dipole wire. If you plan to put up this antenna using a random length of wire, you will need to experiment with various lengths until you find a combination that works. Tests were performed here using two towers of equal height and spaced 100 feet apart. On one tower, was an 80-meter inverted-V 120 feet long fed directly with coax, and running parallel to it on the other tower was a 135-foot long inverted-V fed with ladder-line and a tuner. At the resonant point of the coaxfed dipole and having tuned the ladder-line fed antenna, it was possible to switch antennas instantly

and many hams were asked to look at their “S-meters” while the antennas were switched. All hams that participated in the test said the signals from both antennas were equal. The signals were measured on analog S-meters, not on segmented LCD meters found on most of today's transceivers.

### A Two-Band Fan Dipole

A two-band dipole can be constructed by connecting together the feed point two dipoles for even harmonically related bands. It is fed with 50-ohm coax with or without a balun. The best example of this is 80 and 40-meter dipoles connected together. Both dipoles are cut for half-wave resonance on each of the two bands. They are fed together and the ends of the wires are spread apart. If the ends are close together, there will be interaction between the dipoles. In such an antenna system, both dipoles must be carefully pruned for lowest SWR one band at a time. The lower band will be tuned first since the shorter dipole will not interact with the longer one. Each dipole has a low antenna resistance on the band for which it is resonant. RF energy follows the path of least resistance, and it automatically selects which dipole will receive power. The remaining antenna will have a high impedance. High impedance will block RF. Such an antenna will have a narrower bandwidth than a single band dipole, but close to the resonant frequency of each dipole, a tuner will not be needed. To connect many dipoles for multiple bands is possible, but it is not recommended because multiple wires are prone to interact and it will be impossible to achieve a low SWR on some bands. However, on the two band model,

the 40-meter dipole will resonate close to 15 meters, the 80-meter dipole will resonate close to 10 meters, and working four bands with this set-up is possible. Some hams are using this antenna successfully with a tuner on all bands, although the signal on 20 meters suffers somewhat because of high SWR.

#### **Trapped Dipole for 75 and 40 Meters**

A trap is constructed from a capacitor and an inductor connected in parallel. It acts as an open switch on the frequency for which it is resonant. A trap is placed on each side of the dipole. For a 75 and 40 meter trapped dipole, the traps must be resonant on 40 meters, and each trap should be placed a quarter wave from the center insulator. The center section between the traps is electrically isolated from the ends of the dipole by the traps on 40 meters, and the center section of the antenna becomes a full-sized half wave resonant dipole for that band. This antenna is fed with 50-ohm coax and an optional balun. Wires connected to the outside of the traps are run to the end insulators and are tuned so the entire antenna resonates on 75 meters. The 75 and 40 meter trapped dipole will be shorter than a 75-meter dipole because the inductor in the 40-meter trap acts as a loading coil on 75 meters. In addition, the ends of the antenna can be tuned to operate on the 80-meter CW band instead of the 75-meter voice band. Several sets of traps can be inserted at the correct points in the dipole to make a

multi-band dipole. Multi-band trapped dipoles are being sold, but in many cases they will require the use of a tuner. If a good match is found at a frequency on some bands, the bandwidth without a tuner will be very narrow.

The antenna is only 108 feet long instead of 120 feet because of the loading effect of the traps on 75 meters. These dimensions are for antennas using the traps made by W2AU. If you use other brands of traps, the length of the end wires will have to be adjusted. What you do in that case is make the wire long, measure its resonant frequency on 75 meters, and prune the ends to resonance at your favorite frequency.

#### **The Extended Double Zepp Dipole**

An extended double zepp is a long dipole with 3-dBd gain. It is the longest dipole antenna, which will radiate at right angles to the plane of the antenna. To find the overall length of an extended double zepp, divide 1197 by the frequency in MHz. Each leg of the antenna is 0.64 wavelength long and the total length is 1.28 wavelengths. An extended double zepp for 75-meters at 3.8 MHz is 315 feet. Not many amateurs have space for that antenna. The extended double zepp is mostly fed with ladder-line. Another method of matching an extended double zepp is to use tuned lengths of 450-ohm ladder-line as a series matching transformer connected between the 50-ohm coax and the dipole. The length of the matching section of 450-ohm ladder-line can be found by dividing 135 by the frequency in MHz.

## **The G5RV Dipole**

**An interesting antenna you can buy that will work somewhat on all high-frequency bands is the so-called G5RV antenna. It is named after the call letters of Louis Varney (SK) who designed it. It is a 102-foot long or three half-wave-length dipole antenna on 20 meters (14.150 MHz), and can be used with a tuner on other bands as well. In his original design, Varney calculated the length to be 102.57 feet, but chose to make it an even 102 feet since a tuner was going to be used with it anyway. It was originally fed through a 34-foot 500-ohm homebrew open wire matching section from a 70-ohm coax or parallel conductor feed-line. The 34-foot open wire line is a half wavelength on 20 meters and at the end of a half-wave feedline, you will see the antennas impedance repeated regardless of the feed-line impedance. The ladder-line helps partly to match the antenna on the other bands.**

**The G5RV antenna is around 20 feet short of being a half-wave on 80 meters, and on bands on 20 meters and up, it has theoretical gain. We believe that gain is negated by losses in the coax of the feed system, except for 20 meters. At the frequency of the best match, commercially made models of the G5RV are said to have a 1.8:1 SWR on 80 meters. Where the coax joins the open wire,**

**Varney recommended using a choke made of 8 to 10 turns of coax. He advised against using a balun, because, as he says SWR of 2:1 or higher may cause the balun to heat and possibly burn out. The SWR will be moderately high or high on bands other than 20 meters. Varney recommends using the lowest loss coax available and as short a run as practical because of feed-line losses caused by high SWR. This recommendation is very important today, as it was when Varney designed it. Some G5RV antennas put out decent signals and some others have relatively weak signals. Without further investigating, the only way to explain this is that some are using lossy coax and baluns while others are not, and the height above ground may play a part in how well it works.**

**The G5RV antennas being made today use small diameter 50-ohm coax, 450-ohm ladder-line, and a balun between the ladder-line and the coax, contrary to Varneys suggestions. There are several variations of the G5RV antenna being sold today because many believe they can improve the original design. If you use a G5RV antenna, a tuner will be required.**

## **Off-Center Fed Dipoles**

**A long dipole consisting of multiples of equal half-wave segments is normally fed in the center using ladder-line. Dipoles do not necessarily have to be fed in the center. They can be fed in the center of any one of these half-wave segments, even fed off-center. A fair match will occur if coax is used.**

The dipole shown above is a one-wave-length dipole. It is nothing but two half waves end to end. It is being fed in the center of one half-wave segment or a quarter wave from one end. It is possible to make it any number of half waves, and if it is fed a quarter wave from one end, it will have a fair match. The way it is shown above is an example of how to feed an antenna with even multiples of a half wave using coax. A 2:1 or 4:1 balun will improve the match on longer versions. The windom antenna is another example of an off-center fed antenna. The original windom was fed off center with a single wire. The other side of the transmitter was connected to ground. The feed-point impedance at the transmitter was reported to be 500 ohms on all bands. The antenna was designed by William L. Everett and J.F. Byrne at Ohio State University. W8GZ, whose last name was Windom, described the antenna in the September 1929 issue of QST.

## XII THE HALF SLOPER

### 1. The Half-Sloper

The half sloper is an antenna that is hard to categorize, since it is not a sloping dipole and it is not a vertical. The half sloper is half of a sloping dipole. To make one of these antennas, cut a quarter-wave radiator by dividing 234 by the frequency in MHz and tie an insulator to both ends.

a quarter-wave radiator by dividing 234 by the frequency in MHz and tie an insulator to both ends. One insulator is tied near the top of a tower and the radiator wire is run down toward the ground. Coax is split into its center conductor and shield, and it connects across the insulator at the tower.

The center conductor of the coax is tied to the quarter wave radiator and the shield is grounded to the tower. This means the tower is acting as the missing half of the dipole. It is a difficult antenna to get a good match because the height above ground of the feed-point and the angle of the slope affect the impedance. Some users of this antenna say to mount the feed-point at 45 feet up on the tower and have a beam antenna on the tower above the feed-point to use as a counterpoise.

We'll stop here, and pick up next month with this discussion.



## Calendar of Events



GET ON BOARD  
JOIN IN THE FUN  
WITH AMATEUR RADIO

### LaPorte County Amateur Radio Club Meeting Calendar for 2015

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

|          |    |    |    |    |    |    |    |    |    |    |    |     |
|----------|----|----|----|----|----|----|----|----|----|----|----|-----|
| Meeting  | 19 | 16 | 16 | 20 | 18 | 15 | 20 | 17 | 21 | 19 | 16 | TBA |
| Location | LP | LP | LP | LP | TS | TS | TS | TS | TS | LP | LP | TS  |

LP= LaPorte Knights of Columbus TS= Tower Site, U.S. 35 & Schultz Rd.

## FOX HUNTS

## LIGHT HOUSE WEEKEND

AUGUST 14th & 15th

## HESTON FUND RAISER LABOR DAY WEEKEND

## JOTA